General Administration Building
Condition Assessment

Field Survey Summary Report
June 2, 1994

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SECTION I

GENERAL

The General Administration (GA) Building was constructed in 1954. Since then, several upgrades and remodels have been carried out. The building has six levels totaling 279,700 square feet. The basement is below grade, the ground level at grade on three sides (west, north, and east), and first floor slightly above grade on the south side. The building is serviced by three public elevators, one tenant-use elevator and one freight elevator. Four internal stairwells, located on each side, service all six floors. A two stall loading dock with one dock leveler is located at the northwest corner.

The building's primary tenant is the Department of General Administration with nine other state agencies also occupying the building. The Department of Licensing will move back to the Highway Licenses Building when renovation is completed in August, 1994, leaving space in the GA Building to be occupied by other tenant state agencies. Current uses include offices, conference rooms, copy centers, computer rooms, mail rooms, restrooms, mechanical/electrical room, storage rooms, cafeteria, auditorium, and circulation space.

The building construction type is Type I, Fire Resistive.

SECTION II

METHODOLOGY

The condition assessment survey of a facility creates a computerized inventory of physical elements, assigns each a rating indicating its condition at the time of inspection, and estimates a cost of repair. A snap shot of the facility is created. An inventory is established which can be inserted into future computer applications for long range maintenance planning.

GENERAL:

Capitol Campus facilities were surveyed in two phases. During the first phase, survey team members were trained in the assessment techniques including operation of hand-held computers to input field collected data. Four buildings, Old IBM, Employment Security, State Library and Insurance, were surveyed by both consultants and in-house surveyors from GA. The divisions participating were: Division of Capitol Facilities (DCF), Engineering and Architectural Services (E&AS), and Division of Property Development (DPD). Each field survey team was made up of four people: two team members surveyed the architectural features of the facility, one focused on exterior elements and the other, on interior, a third person looked at mechanical elements and a fourth at electrical elements. Team members brought unique talents and levels of experience to the assessment. DCF and DPD members brought strong maintenance backgrounds, and E&AS architectural and cost estimating skills.

During the second phase, five additional buildings were surveyed using the same methodology, except personnel from the Division of Capitol Facilities, and Engineering Architectural Services; or a combination of GA personnel and consultants conducted the surveys. GA's Department of Information Services provided technical support for the hand-held computers during both phases of the field survey.

Each element was assigned a rating for its physical condition based on the following scale:

1. Unsatisfactory for current use - repair now/out of service.
2. Poor - immediate major repairs; repair now/failure imminent.
3. Satisfactory - repair in two years.
4. Good - limited repair in three to five years.
5. Excellent - no major deficiencies.

In addition, an overall rating was given to each of the four asset categories (exterior or interior architectural, mechanical and electrical), and an overall building rating determined by averaging these four.

Repair costs were estimated for materials and labor, in today's dollars, on elements rated 1 through 4. In some instances, repair costs were given for elements rated 5 because minor problems were found which needed repair; but the category, as a whole unit, did not require major work. In other cases, a 5-rated element was costed to indicate the need for long range

planning to repair the asset. If another condition assessment survey is conducted in the next biennium, for instance, elements rated "excellent" now may move into a less favorable rating category and require repair. By flagging these elements in the condition assessment database now, planners have early warning of future budget needs. The sources of cost information included GA personnel, consultants, and previous campus studies, most notably the 1993 Capitol Campus Indoor Air Quality (IAQ) Study. Costing for elements rated 1 to 3 with estimates exceeding $50,000 were cross-checked by consultants if requested by in-house surveyors.

LIMITATIONS:

There are limitations to the information gathered. Elements were surveyed within a facility on a floor by floor basis. All steel doors, for instance, on one floor of a building were considered as a unit and not counted and totaled for assessment of condition and cost estimation.

Costs are intended to be general indicators, and not meant to be used in bid documents. Conditions requiring large sums to repair can be identified easily in the inventory database. These costs can be further refined during the process of developing a project to correct the physical problem. Cost estimates in the condition assessment database also deal with repairing elements in isolation, not linked together as would be necessary for comprehensively costing a renovation or remodel. In the GA Building, for instance, the cost of replacing plumbing pipe is estimated from a strictly mechanical point of view, without taking into consideration the architectural cost of removing and replacing walls. The estimated costs are directed primarily toward maintenance issues and not design criteria.

Considering a facility in isolation ignores repairs necessary at an infrastructure level. Irrigation pipes around the GA Building, for example, are in good condition, but the distribution system servicing these pipes is the original water main. These pipes are in poor condition. The whole irrigation loop servicing the west campus should be upgraded. The condition assessment program addresses irrigation at the building site only, and not the entire west campus.

Although cost estimates are an important accomplishment of the condition assessment survey, they cannot be stretched into providing detailed information beyond the original concept.

SECTION III

CATEGORY SURVEY REPORTS

A ARCHITECTURAL:

1. ARCHITECTURAL I. (Site, Structure, Exterior)

The GA Building site is bounded by sidewalks on the south and east; and parking lots on the north and west. Because the building sits close to the edge of a cliff rising above Capitol Lake, concerns have been raised about the seismic stability of the structure. No evidence of bracing was found in the building. The sidewalks around the building are generally in good shape, but the asphalt in the parking lots has deteriorated. The retaining wall at the northern edge of the parking lot does not have a guardrail and is a potential safety hazard.

The roof is built-up asphalt membrane. It will require resealing in a couple of years, though it is fine now. Future considerations for the roof include slopped insulation for positive drainage and added energy considerations. The exterior windows are an old-style, operable aluminum frame. The glass is very dirty. All windows should be replaced because many are missing handles, have broken hinges, and are energy inefficient. A full energy analysis of the exterior skin should be completed to meet the current energy code. The precast concrete structure was not assessed but questions have been raised concerning its seismic integrity. A seismic structural analysis should be completed to address additional structural improvements required. More information is available in the 1993 budget submittal for a building rebuild.

ASBESTOS GLAZING PUTTY

2. ARCHITECTURAL II. (Interior)

Ceilings:
The ceilings of the GA Building consist of three separate systems. The original ceilings are a suspended plaster lath with 12 inch by 12 inch acoustical tile glued to the plaster. This system is found in approximately 80% of the building.

This type of ceiling is in very poor condition. It is extremely dirty and many of the tiles are missing or are falling off the plaster. The ceiling space is very hard to access for maintenance purposes or any building system modifications. Total replacement of this ceiling is recommended. ASBESTOS ABATEMENT REQUIRED

Approximately 15% of the building has a T-bar-type acoustical ceiling with 2 foot by 4 foot lay in ceiling tile. This ceiling is in good condition with the only problem being dirty tiles near the H.V.A.C. diffusers.

Approximately 5% of the building has a gypsum board ceiling with thin coat plaster. This is all in good condition.

The overall condition of the ceilings is poor and they should all be replaced. This work should be completed at the time of improvements to indoor air quality, lighting, and H.V.A.C. systems. This would improve the overall appearance of the office spaces.

Doors:
The GA Building has two types of doors. The original doors are steel. They are in good condition but the hardware needs upgrading to meet current ADA requirements. The doors are also not labeled for fire and should be replaced with any future renovation work.

The remodeled areas of G-level and basement, as well as the corridors of the first through fourth floors, have wood fire rated doors. These doors have lever-type door handles.

The overall condition of the doors is good with few exceptions. New door hardware is needed to bring the building into compliance with ADA requirements.

Floors/Coverings:
The original floor covering in the GA Building is vinyl asbestos tile (V.A.T.). Approximately 90% of the floor space has been carpeted over the years, almost all of the areas that have carpet have had the V.A.T. removed and carpet glued directly to the concrete floor slab. 70%

The carpet is in fair condition with some areas needing replacement immediately. Some carpeted areas are less than two years old.

The V.A.T. remaining is generally in the main corridors. This tile needs to be replaced immediately. It has come loose from the sub-floor in many places and is a tripping hazard. The condition of this tile is poor. The asbestos content needs to be verified.

The corridors on G-level and basement have been covered with a rubber floor tile that needs to be replaced immediately. This tile has come loose from the sub floor and is a tripping hazard.

Three small computer rooms in the building have raised access floor. This flooring is in good condition with no obvious defects.

The main lobby floor is a terrazzo finish. This floor has a 40-foot crack that may need to be repaired if the crack expands.

Interior Walls: LOBBY PERIMETER WALL ABOVE TERRACOTTA TILE CONTAINS ASBESTOS
There are many types of interior wall systems in the GA Building. The main walls at the stairs, elevator lobbies and corridors are either cast in-place concrete or concrete masonry

unit (C.M.U.). The condition of these walls is good with no visible cracks or defects. These walls are the rated corridor walls of the building. There is a question as to the fire integrity of these walls because of penetrations above the ceilings. This should be further investigated.

The office spaces contain either gypsum wall board (G.W.B.) with plaster and paint, vinyl covered G.W.B. or metal "hauserman" panels. The G.W.B. walls are in good condition but the metal wall panels need to be replaced as soon as possible. They are hard to handle and move during tenant improvement projects. They look bad and degrade the appearance of the office space. Sixty-five percent of the interior needs to be painted.

A large mosaic tile mural in the main lobby is in good condition and needs no repair.

Signage:
The signage in the building is a plastic "system" that does not comply with ADA standards and should be upgraded for compliance.

The overall rating for interior and exterior architectural elements is three (3.0) on a scale of one to five.

B MECHANICAL:

1. Heating, ventilation, air conditioning, and controls:

Heating:
The zone heating in the building is inadequate because it does not meet the comfort needs of tenants in different areas. The heating coils on the main building systems are not efficient and need to be replaced.

Air conditioning:
Too many once-through, city water cooled spot coolers and chillers have been retrofitted into the building. The main system cooling air is not separated from the spot cooling exhausted air circulation. No cooling is provided to some rooms which require cooling.

Ventilation, ductwork, diffusers:
The majority of the ductwork is not insulated. The dual mode supply/return diffusers are inadequate, outdated, and wastes energy. The system does not meet the comfort needs or industry-standard air circulation rates for occupants. The building system is only providing about 50% of air flow needed according to the 1993 Capitol Campus Indoor Air Quality Study. The VAV zone fans are inadequate with no delineation between perimeter and interior zones.

Temperature controls:
Operator control of the ventilation system is very limited because the building is not equipped with a central coordinated control system.

2. Fire suppression:
Basement and ground floor public access areas have sprinklers. The rest of the building has no protection. This is a serious life/safety issue. The halon systems in computer rooms are in good condition, however new CFC guidelines will require removal of these systems in the future. It is premature to extract cost figures for inclusion in this report.

3. Plumbing:
The galvanized domestic water piping is in poor shape. It has been in the building for 36 plus years and has developed in line restrictions and water discoloration. Pipes are starting to rust and to leak. Domestic hot water is generated by an aging steam fired heat exchanger which has outlived its economic life. Steam and hot water heating piping is in need of a major overhaul. Bathroom fixtures need replacing. Faucets and flush valves need to be replaced with low flow units. GROUND FLOOR CHILLED WATER SYSTEM ON ROOF. STEEL PIPE → PLASTIC PIPE → TO STEEL PIPE. PLASTIC PIPE IS LEAKING (2004)

4. Transport systems:
The three building passenger elevators, one tenant-use elevator, and one freight elevator are all original equipment. They are all in poor condition and need replacing. The dock leveler has had heavy use and needs upgrading.

5. Site services, utilities:
Irrigation, domestic, and sewer piping are in fair shape.

6. Overall rating:
The overall rating for mechanical is two (2.0) on a scale of one to five.

C ELECTRICAL:

The electrical system is overloaded and outdated. The high voltage system is the only exception, having been installed in 1993. The transformers were installed in the early 1970s. These 12470 to 120/208-Y units have run under heavy loads for over 20 years. To conserve electricity they need to be upgraded to 480/277-Y volts. WIRE GAUGE OF POWER FEEDS BETWEEN PANELS & LIGHT FIXTURES DOES NOT MEET CODE

The lighting is 40 years old and both outdated and inefficient. It should be upgraded to 277 volts to lighten the load on the 120/208-Y system by at least a quarter and save energy. If the lighting system were placed on controllers, more energy would be saved because the system is currently running around the clock, seven days a week. If controllers were used, the heating and H.V.A.C. needs would also have to be reviewed.

The isolation switch and tie breakers are original to the building. They are obsolete and parts can no longer be obtained for them. If they were to break or burn out, the building would experience a major outage for an extended time.

The main switch gear is also original to the building. The mold case breakers were changed in the 1970s, but all the switch gear should be replaced.

All electrical panels are at least 40 years old and have been running at or over 100% for years. Many breakers are measuring 120 degrees F when rated for only 60 degrees F. If these breakers burn up, they cannot be repaired because there are no available spares. This is a serious issue and must be addressed. Redistributing and lightening the load, however, would require a major electrical upgrade.

The emergency system consists of two diesel generators: a 125 KVA 3 phase 120-208-Y volt and a 100 KVA 3 phase 120/208-Y volt. ADA requirements specify one elevator to be on emergency power. The emergency system does not have the capacity to provide this extra power.

NEW LNI CODE ALL ELEVATORS IN BASE MUST BE ON EMERGENCY BACKUP (LOAD SWITCH OVER TO POWER AT ONE AT A TIME)

The fire alarm system is outdated and needs to be upgraded to meet ADA requirements. The fire alarm panel needs to be removed from the transformer vault. This is a serious National Electric Code (N.E.C.) code violation. NO SPRINKLERS 1-2-3-4 PARTIAL BASEMENT & GROUND FLOOR

The wire in the main switch gear is old and needs to be replaced. The home runs and most of the feeders for the lighting is original, much of it in bad shape and needing replacement.

Overall, the building is in bad shape. The switch gear is beyond its functional life. The panels are fully loaded with a number of hot breakers. A past improvement project was to install new panels but some were actually tapped off the existing panels. This increased demand overloads panels leading to blown mains. When new panels are installed, breaker space should be left unfilled and main breakers should be sized to their optimum amps load.

The overall electrical rating is one and-a-half (1.5) on a scale of one to five.

SECTION IV

SUMMARY AND CLOSING

Many of the building's systems, such as the ventilation fans, may function for years with break and fix maintenance; however, much of the equipment is original to the building. It is old, worn-out, inefficient, and considered uneconomical to operate. Repair is not even possible for many pieces of equipment because the parts are no longer available.

In addition, over-occupancy, improper space usage, and poor ventilation contribute to creating a building that is in poor condition.

CATEGORY AND OVERALL RATINGS

The condition rating system used in the Condition Assessment survey was:

1. Unsatisfactory for current use - repair now/out of service.
2. Poor - immediate major repairs; repair now/failure imminent.
3. Satisfactory - repair in two years.
4. Good - limited repair in three to five years.
5. Excellent - no major deficiencies.

The overall condition rating for each category of the General Administration Building was:

Architectural I (exterior)	3.0
Architectural II (interior)	3.0
Electrical	1.5
Mechanical	2.0

The Condition Assessment survey rated the building approximately 2.5 on the scale of one to five. Most elements are either in poor condition or are about to fail. The most serious problems are with electrical and ventilation systems. The survey teams recommend either complete renovation, or demolition and rebuilding.

COSTING BY CATEGORY

The costs listed below were determined by the Division of Capitol Facilities, Engineering and Architectural Services, and consultants using blue prints, previous studies, and historical project materials in conjunction with field survey analysis. Each category, Architectural I, Architectural II, Electrical, and Mechanical, have total costs listed in physical condition groupings. Costs for elements rated 1 and 2 are grouped together; costs for elements rated 3, 4, and 5 are listed separately. Sorted in this manner, costs can be used for budgeting, within the confines of the limitations previously listed, for the biennium in which the repairs are needed.

	Rated - 1 & 2	Rated - 3	Rated - 4	Rated - 5
Arch. I- (Ext.)	$476,550	$155,700	$225,600	$0
Arch. II-(Int.)	$126,500	$1,346,000	$1,033,500	$4,000
Mechanical	$504,000	$0	$8,810,800	$2,000
Electrical	$5,010,200	$403,000	$555,000	$950,000
TOTAL:	$6,117,250	$1,904,700	$10,624,900	$956,000